

## Weekly Report

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RAMMB / CIRA  
Cooperative Research Program Division (CoRP)  
STAR/NESDIS  
National Oceanic and Atmospheric Administration (NOAA)

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### **Products and Applications**

**Joint Hurricane Testbed (JHT) project accepted for implementation into National Hurricane Center (NHC) operations:** JHT project “Improvements to Operational Statistical Tropical Cyclone Intensity Forecast Models Using Wind Structure and Eye Predictors”, PI Galina Chirokova, was accepted for implementation into NHC operations. The project was conducted in collaboration with the NOAA/AOML Hurricane Research Division, and completed several upgrades to the NHC Guidance Suite, including the addition of several new predictors for statistical TC intensity forecast models. The upgraded models included the Statistical Hurricane Intensity Prediction Scheme (SHIPS), the Logistic Growth Equation Model (LGEM), and the SHIPS-Rapid Intensification Index (SHIPS-RII). The added predictors include the parameters derived from the estimated probability of the eye existence in GOES long-wave IR imagery, as well as predictors estimated from storm size and related parameters, including the radius of maximum wind (RMW), radius of 34-kt winds (R34), and latitude. The upgrades resulted in significant forecast error reduction for all three models. The most notable improvement was at the short forecast lead times (6 - 24 h) for which historically forecast errors have improved slower than for longer forecast lead times. In addition, as part of that project the RAMMB-CIRA Extended Best Track dataset, [https://rammb2.cira.colostate.edu/research/tropical-cyclones/tc\\_extended\\_best\\_track\\_dataset/](https://rammb2.cira.colostate.edu/research/tropical-cyclones/tc_extended_best_track_dataset/) was revisited and updated.

(G. Chirokova, CIRA, J. Knaff, STAR/RAMMB, [Galina.Chirokova@rams.colostate.edu](mailto:Galina.Chirokova@rams.colostate.edu), [John.Knaff@noaa.gov](mailto:John.Knaff@noaa.gov)). Funding: JHT, NOAA



### **Future Meetings and Events (dates, meeting/event, location, staff involved)**

21 March 2022, Steve Miller will share '*water-breaking*' results from a study on bioluminescent Milky Seas, encountered for the first time by the VIIRS Day/Night Band carried on Suomi NPP and NOAA-20. **JPSS Science Seminar Series**, 12 PM Eastern, [meet.google.com/krn-qfgh-cdf](https://meet.google.com/krn-qfgh-cdf).

April 26-29, 2022, 2022 **INDOPACOM Tropical Cyclone Conference (TCC)**, Pearl Harbor, HI & remote, Alan Brammer, Galina Chirokova, John Knaff, Naufal Razin

09-13 May 2022, **35th Conference on Hurricanes and Tropical Meteorology**, New Orleans, LA & virtual, Alan Brammer, Galina Chirokova, Mark DeMaria, John Knaff, Alex Libardoni, Marie McGraw, Kate Musgrave, Naufal Razin, Andrea Schumacher, Chris Slocum

### **Other**

**CAPS Lunch and Learn: Supervisory Edition:** J. Knaff attended this session to learn the process. (POC: J. Knaff, STAR, [John.Knaff@noaa.gov](mailto:John.Knaff@noaa.gov), Funding: PRDA)